



Cross-Mobile Platform Development Tools

Serge-Paul Carrasco

June 2012



The Challenge for Developers

- Today:
 - RIM BlackBerry.....C/C++ and Java
 - Apple iOS.....Objective C
 - Google Android.....Dalvik Java
 - Windows Mobile.....DotNET C variants
- Yesterday:
 - webOS.....HTML, CSS, JS
 - Symbian.....C++
 - MeeGo.....Qt/C++

First Approach: Web Source

Web Source

HTML/CSS/
JavaScript
Files

Wraps into native libraries



Products:

Phonegap from Nitobi

appMobi XDK from appMobi

Rhodes from Rhomobile

Adobe PhoneGap

- Open source framework that wraps the Web apps (HTML/CCS) into a native package (but not native code)
- The native package can access most of the mobile device features

	 iOS iPhone / iPhone 3G	 iOS iPhone 3GS and newer	 Android	 OS 4.6-4.7	 OS 5.x	 OS 6.0+	 WebOS	 Symbian	 Bada
ACCELEROMETER	✓	✓	✓	✗	✓	✓	✓	✓	✓
CAMERA	✓	✓	✓	✗	✓	✓	✓	✓	✓
COMPASS	✗	✓	✓	✗	✗	✗	✗	✗	✓
CONTACTS	✓	✓	✓	✗	✓	✓	✗	✓	✓
FILE	✓	✓	✓	✗	✓	✓	✗	✗	✗
GEOLOCATION	✓	✓	✓	✓	✓	✓	✓	✓	✓
MEDIA	✓	✓	✓	✗	✗	✗	✗	✗	✗
NETWORK	✓	✓	✓	✓	✓	✓	✓	✓	✓
NOTIFICATION (ALERT)	✓	✓	✓	✓	✓	✓	✓	✓	✓
NOTIFICATION (SOUND)	✓	✓	✓	✓	✓	✓	✓	✓	✓
NOTIFICATION (VIBRATION)	✓	✓	✓	✓	✓	✓	✓	✓	✓
STORAGE	✓	✓	✓	✗	⚠	✓	✓	✓	✗



Rhodes: Rhomobile

- Open source framework but developer apps must be released as open source (GPL)
- Does not compile to truly native application code but to native libraries
- Development is done in HTML or Ruby
- Supports Model View Controller (MVC)
- Synchronized data with enterprise apps (salesforce, Microsoft CRM, Microsoft .NET, Oracle CRM...)
- Large number of mobile devices supported: BB, iOS, Android, Windows
- Hosted development and build

Second Approach: Web Source & Native SDK

Web Source

HTML/CSS/
JavaScript
Files

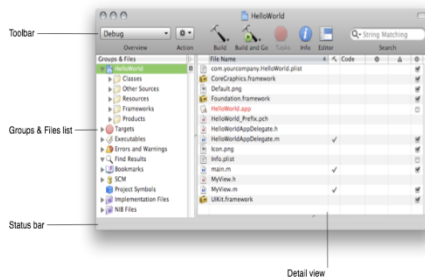
Generates native code

iOS



Native SDK

iOS Xcode – Android SDK



Products:

*Titanium Mobile from
Appcelerator
Worklight Studio from
Worklight*



Titanium Mobile: Appcelerator

- Originally created for desktop development – re-purposed for mobile development
- Eclipse-based IDE with large libraries of APIs (including native GUI elements)
- Compiles to truly native application code:
 - Objective-C for iOS
 - Java Dalvik for Android
- Development is done in JavaScript and JSON
- Custom native functionality can be added in Objective-C and Java and then being called using JavaScript
- Provides extension for social networking, commerce, analytics, geolocation integration

Third Approach: Simple UI APIs

Text Editor – Simple APIs



Generates native code



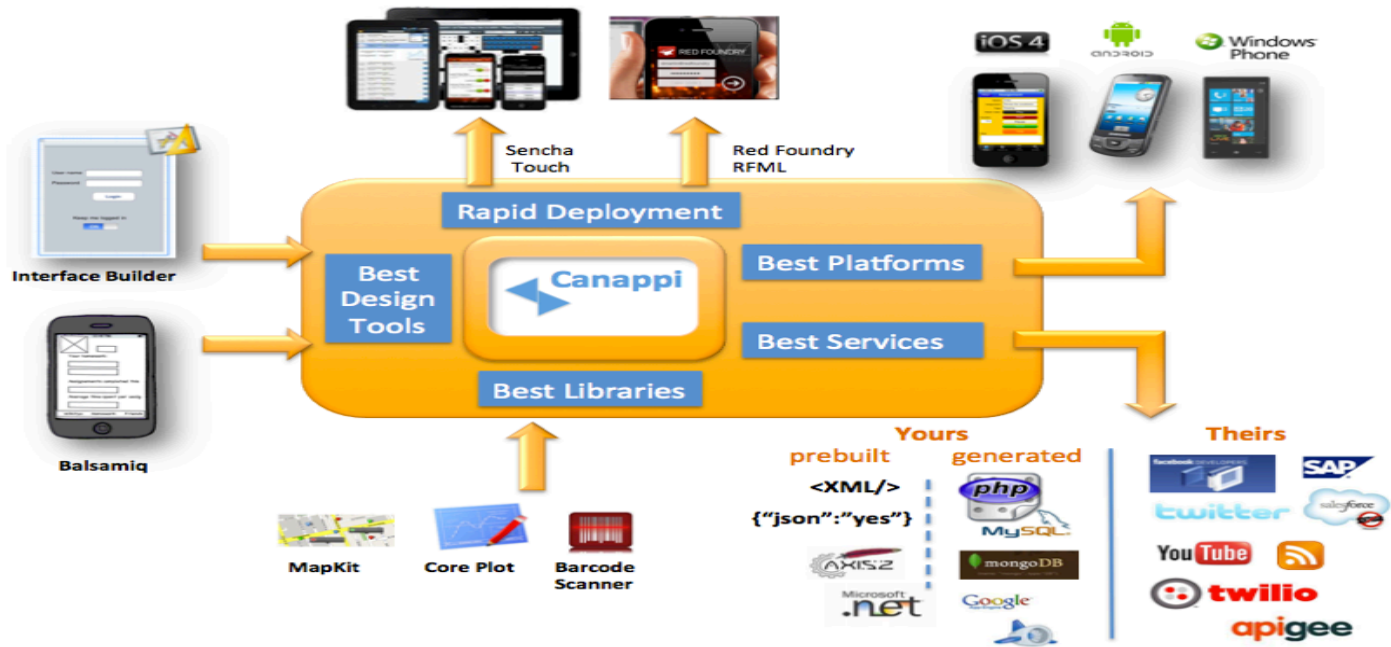
Product:
Corona SDK from Anscamobile



Corona SDK: Anasca Mobile

- Cross mobile development platform:
 - Complete and simple SDK with full integration with device's capabilities
 - The same code can run natively on iOS and Android
- Much faster and easier development effort than a native SDK (BB Java, iOS Xcode, Android SDK):
 - Development is done in Lua
- Presently mostly for 2D games – leveraged OpenGL graphics
- Expanding to:
 - Web apps – by integrating Web Views/HTML
 - eBooks
- Adding new services:
 - Ad Network (InMobi), Social Gaming Network (PapayaMobile) and Cloud-based Analytics
- Can be used very successfully by a 14 years old teenager

Mixing “best of Breed” Design Tools, Platforms and Services



Product:
*Canappi Development Hub
from Canappi*



Canappi Development Hub: Canappi

- The vision of Canappi is to abstract the mobile app such that a well defined solution model exists regardless of the technology and architecture”.
 - A developer can use Apple Xcode Interface Builder to create Android activities
- Canappi is a development hub that integrates:
 - Design tools
 - 3rd party libraries
 - Generates native code for the mobile platform
 - Creates the back-end data services for the mobile application
- From a single "application descriptor", Canappi can generate a prototype running on several platforms

Other Development Tools

“Visual” Tools

- Concepts:
 - Visual drag & drop development
 - Do not require any code development
- Products:
 - dragonRAD SDK from dragonRAD
 - Kony Studio from Kony

“Legacy” Tools

- Concepts:
 - C/C++ SDK as complex as native SDKs
 - Great support for “legacy” platform features (Java ME, Symbian, MeeGo...)
- Products:
 - MoSync SDK from MoSync
 - Qt SDK from Qt



Conclusion: What to do?

- If the developer is targeting many platforms – has limited budget and time and is not looking for the best user experience:
 - Phonegap is the best choice
- If the developer is experienced with Native SDKs and wants a mix of Web and native code:
 - Titanium Mobile from Appcelerator is the best choice
- If the developer wants the best user experience – has limited budget and time – and wants an easy-to-use SDK:
 - Corona SDK from Anscamobile is the best choice for game development

Thank you for your attention